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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/904,312 07/31/97 KAWAI

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EXAMINER

LM12/0517

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ART UNIT

PAPER NUMBER

2746
DATE MAILED:

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

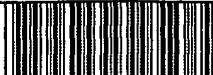
Office Action Summary

Application No.
08/904,312

Applicant
Kawai et al.

Examiner
LEE NGUYEN

Group Art Unit
2746



☒ Responsive to communication(s) filed on Mar 25, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-16, 19-24, and 27-34 is/are pending in the application.

Of the above, claim(s) 17, 18, 25, 26, and 31-34 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-16, 19-24, and 27-30 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The IDS papers filed 11/3/97 (paper # 2) have been received and placed of record in the file.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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Election/Restriction

4. Applicant's election with traverse of Group I, claims 1-16, 19-24, 27-30 and multidependent claims 31-34 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the inventions I, and II are not distinct and have not acquired a separate status in the art because Groups I-II all claim the same subject matter. This is not found persuasive because even though they are classified together, each subject can be shown to have formed a separate subject for inventive effort when an explanation indicates a recognition of separate inventive effort by inventors. Furthermore, Applicant should refer to the European Search reports submitted in paper #2 in which there are eight different inventions.

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

5. Claims 31-34 are objected to under 37 CFR 1.75© as being in improper form because a multiple dependent claim can not depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 31-34 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 5-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 5, the claim recites the limitation "the same selected frame" in lines 1-2 of page 23. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear to what selected frame the term "the same selected frame are received within a predetermined period". The claim further recites the limitation "said plural number of times" in line 4 of page 23. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear to what selected frame the term "said plural number of times" refers.

Dependent claim 6 is rejected for the same reason.

Regarding claim 7, the claim recites the limitation "the same selected frame" in line 20 of page 23. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear to what selected frame the term "the same selected frame are received within a predetermined period". The claim further recites the limitation "said plural number of times" in line 24 of page 23. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear to what selected frame the term "said plural number of times" refers.

Dependent claim 8 is rejected for the same reason.

Claim Rejections - 35 USC § 102

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8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 19-20, 22-23, and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992).

Regarding claims 19-20 and 22-23, Spragins teaches an apparatus and method for receiving data from a broadcast station, comprising receiving said data I,0,0 (fig. 7.13b) and transmitting to the broadcast station (the primary station) at predetermined intervals (I,0,0 to I,2,0,P) in responsive to a polling signal P an error status signal REJ,1,F which indicates whether error correction information is required from the central station (page 328 section 7.6.3, figs. 7.13a-7.13b).

Regarding claims 27-30, Spragins teaches an apparatus and method for receiving data from a broadcast station, comprising receiving said data in a format comprising a sequence of frames (page 318, receive count of N frames); and transmitting signals to said broadcast in a format including receive state information indicating the sequence number of the last in sequence of the received frames (page 318, supervisory frames can also be used for acknowledgments, receive count of 3), but not including transmit state information indicating sequence of any frames transmitted to the broadcast station (page 318, ACK and NACK frames each use a received count, but neither uses a

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send count). Spragins also teaches the frame format in Byte-Count-Oriented Protocols in Data Link Layer Protocols, page 316).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedeman (U.S. 5,303,286) in view of Smolinske et al. (U.S. 5,487,068).

Regarding claims 1-4, Wiedeman teaches an apparatus for transmitting data relating to the status of user terminals in a mobile communications system from a central station 28 (fig. 2) having

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a database 20 as claimed to plurality of local stations 37, each having a local data base 27 as claimed, the apparatus comprising means for broadcasting said data to each of said local stations 37. Wiedeman fails to take into account of error transmission when the central station transmits information in packets of frames to the local stations 37 which requires error detection in each local stations 37, wherein each local station 37 requests from the central station 28 for selective error correction and the central station 28 retransmits the selected frames in response. The concept of using a selectively automatic repeat request (selective repeat ARQ) for requesting a selected retransmission frame when error occurs from a local station to the central station is conventionally well known, which is taught by Smolinske. Smolinske teaches that when an error packet occurs the subscriber unit transmits a selective-repeat ARQ to the base station and the base station retransmits the selected packet to the subscribers (col. 2, lines 16-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the error detection and selected error correction of Smolinske to the system of Wiedeman in order to provide reliable packet level communication.

12. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smolinske et al. (U.S. 5,487,068) in view of Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992).

Regarding claims 9-10, Smolinske teaches a method and apparatus for transmitting data to a plurality of data receiving stations, comprising: a base site transmitting data in a common channel

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in a format comprising a plurality of frames to receiving stations (col. 2, lines 31-33); receiving error correction request signals indicating selected ones of said frames as claimed (selective repeat ARQ, col. 2, lines 33-39); retransmitting said selected frames to said receiving stations and receiving from each of said local stations acknowledgment signals indicating the earliest in sequence of said frames which has not been received by that local station (col. 2, lines 36-42). Smolinske fails to explicitly teach that the selective repeat ARQ is implemented under high level data link format HDLC in which a new frame which has not previously been broadcast is broadcast only if the sequence order of said new frame is less than a predetermined number greater than the earliest of said frames which has not been received by any one of said local stations. This technique is conventionally well known in the art, as taught by Spragins. Spragins teaches that a new frame I,2,0,P (fig. 7.13b) which has not previously been broadcast is broadcast only if the sequence order 2 of said new frame is less than a predetermined number 3 of frame I,3,0 greater than 1 the earliest of said frames I,1,0 which has not been received by any one of local stations (page 328, section 7.6.3, figs. 7.13a and 7.13b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Spragins to the apparatus of Smolinske in order to reduce transmission delay.

13. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smolinske et al. (U.S. 5,487,068) in view of and Ellis et al. (U.S. 5,497,371).

Regarding claims 11-12 and 14-15, Smolinske teaches a method and apparatus for transmitting data to a plurality of data receiving stations, comprising: a base site transmitting data in

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a common channel in a format comprising a plurality of frames to receiving stations (col. 2, lines 31-33); receiving error correction request signals indicating selected ones of said frames as claimed (selective repeat ARQ, col. 2, lines 33-39); retransmitting said selected frames to said receiving stations in response to the request signals (col. 2, lines 36-42). The frames of Smolinske inherently includes frame sequence information N(S) indicating the sequence of each frame and receive state information N(R) indicating the sequence of any frames received from any of the receive stations because it is implemented with selective repeat ARQ protocol in the HDLC layer which is ISO/IEC 7809. Smolinske differs from the claim invention in that the frame does not include receive state information N(R) indicating the sequence of any frames. However, this technique is conventionally well known in the art, as taught by Ellis. Ellis teaches an HDLC format frame which includes the frame sequence number N(S) 4, but not including receive state information N(R) indicating the sequence of any frames (figs. 3-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Ellis to the apparatus of Smolinske so that higher priority of information packets can be transmitted over a single communication link.

Regarding claims 13 and 16, Smolinske as modified fails to teach that the N(S) sequence number is eleven bits in length. A skilled artisan would find that providing the N(S) sequence number with 11 bits in length or any other lengths obvious because it is not critical in the invention. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the 11 bits in length to N(S) sequence number of Smolinske in order to reduce overhead signalling in the communication system.

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14. Claims 21/19, 21/20, 24/22 and 24/23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992).

Regarding claims 21/19, 21/20, 24/22 and 24/23, Spragins also teaches a plurality of frames I,0,0-I,2,0,P (fig. 7.13b). The high data level control link HDLC of Spragins provides the error correction request signal REJ,1,F (fig. 7.13b) indicating negative acknowledgment (NACK) or selected ones of frames which were not received correctly. Spragins differs from the claim invention in that the error correction request signal REJ,1,F (fig. 7.13b) can also indicate positive acknowledgment (ACK) or selected ones of frames which were received correctly. However, according to Spragins a secondary station can provide an error status signal that comprises either an error correction request signal indicating a frame which were not correctly received NACK4 (fig. 7.9) or a signal that indicates that no error correction is required ACK6 using Byte-Count-Oriented Protocols (pages 319-321). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Byte-Count-Oriented Protocols to the HDLC protocols in Spragins in order to allows piggybacking of positive acknowledgments and acknowledgment of multiple frames with one response.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Nguyen whose telephone number is (703) 308-5249. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached on (703) 305-4366.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-9051, (for formal communications intended for entry)

Or:

(703) 305-9508, (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

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Lee Nguyen

May 12, 1999

A handwritten signature in cursive script, appearing to read "Lee Nguyen".

Lee Nguyen
Primary Examiner